Remarks

Applicant respectfully submits that entry of this Response is proper as it makes no amendments to the claims.

The Examiner has maintained the rejection of independent claims 1, 2 & 20 (and dependent claims 3-19) under 35 U.S.C. 35 U.S.C. §103 as obvious over Frijlink (Journal of Crystal Growth), at the time of the invention in view of Molnar, U.S. Patent No. 6,086,673. Applicant respectfully requests that the Examiner reconsider this rejection in view of the below Remarks.

The Examiner notes Applicants' argument regarding the location of the sources, but states, "However, the Molnar reference does teach that the source [is] inside the chamber." (7/26/05 Office Action at 4). Applicant respectfully disagrees, and respectfully requests that the Examiner review Molnar in light of the portions of this reference identified below.

In Molnar, the metal source is not disposed in the reaction chamber. Instead, the metal source is located outside of the reaction chamber, and the forming of the halide takes place outside of the reaction chamber and must be subsequently delivered to the reaction chamber via an injector. Applicant respectfully notes that, upon examination of the pertinent portion of the specification with reference to Figure 1, it is clear that Molnar teaches distinct precursor-synthesis and reaction chambers, and that the metal source/halide formation is located in the precursor chamber, not the reaction chamber. Specifically, starting at Col. 5, line 34, Molnar explains:

> ...The reactor provides two distinct chambers, namely, a precursor synthesis chamber 14 and a growth chamber 16. With this configuration, the Ga precursor for the GaN growth reaction is synthesized in situ in the precursor synthesis chamber 14, upstream of the growth chamber, into which the synthesized

> precursor is then delivered... Precursor gas synthesized in the precursor chamber 14 is delivered to the growth chamber in the vicinity of the platen to effect the growth process...
>
> The synthesis and growth chambers are isolated by a boat 22 located at the bottom of the synthesis chamber for holding liquid Ga metal for the precursor synthesis process. The boat edges seal with the reactor tube liner 12 to isolate the chambers. A synthesis gas injector 24 delivers to the precursor synthesis chamber a precursor synthesis gas, e.g., here HCl gas in a dilutent H2 gas, at a point above the liquid Ga metal in the boat 22. The HCl gas reacts with the liquid Ga metal to form gaseous GaClx above the surface of the boat. A precursor delivery injector 26 extends from a point above the surface of the boat, down through the boat itself, and into the growth chamber to extract the synthesized GaClx gas and deliver it to the growth area.

As explained in above quoted text, the metal source is not located in the chamber where the growth reaction occurs (chamber 16), but instead, occurs in a different, distinct chamber (chamber 14) located upstream of the growth reaction chamber and sealed off therefrom by boat 22. As also explained, the gaseous halide is formed in this other chamber 14, and is then subsequently transferred to the growth reaction chamber 16 by the injector 24.

This is the opposite of the invention claimed in the independent claims of the present application, which recite that the *metal sources are located in the reaction chamber*. Unlike Molnar, where the halides are injected into the reaction chamber, in the present invention, *the halides are formed in the reaction chamber*. Claim 1, for example, specifically recites:

> ...one or more heated sources, where a gaseous halide is formed by chemical reaction of a halogen, in particular HCl, which is fed to the source together with a carrier gas, and a metal, for example Ga, In, Al, arranged at the source...

> ...the separately heatable sources being disposed adjacent to the axis of symmetry inside the reaction chamber...

For the reason explained above, the prior art does not read on this claim language. To the extent the Examiner disagrees with the above, Applicant respectfully requests that the Examiner telephone the undersigned.

It is respectfully submitted that claims 1-20, all of the claims remaining in the application, are in order for allowance, and early notice to that effect is respectfully requested.

Respectfully submitted,

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